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Education

Design and validation of an augmented book for spatial abilities development in engineering students

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Abstract

This paper presents an application of augmented reality for improving spatial abilities of engineering students. An augmented book called AR-Dehaes has been designed to provide 3D virtual models that help students to perform visualization tasks to promote the development of their spatial ability during a short remedial course. A validation study with 24 Mechanical Engineering freshmen at La Laguna University (Spain) has concluded that the training had a measurable and positive impact on students' spatial ability. On the other hand, results obtained using a satisfaction questionnaire illustrate that AR-Dehaes is considered an easy to use, attractive, and very useful technique for students. AR-Dehaes has proved to be a very cost-effective tool insofar as it only required an ordinary PC with a webcam to be used.



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Keywords

Augmented book; Spatial ability; Augmented reality

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